

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Jerome SOUPPE, et al.

For: IMPROVED PROCESS FOR THE PRODUCTION OF ALCOHOLIC BEVERAGES
USING MALTSEED

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

PRELIMINARY AMENDMENT

Please amend the above identified application as follows:

IN THE SPECIFICATION

Page 3, after line 3, please insert the following new paragraph:

--BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a brewing diagram showing conditions used in brewing
trials involving test brews prepared according to the invention and a
control brew (see Example 10 below); and

CERTIFICATE UNDER 37 1.10

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NOTE: Each paper or fee referred to as enclosed herein has the number of the "EXPRESS MAIL" mailing label place thereon prior to mailing 37 CFR 1.16(b).

Figure 2 is a brewing diagram showing conditions used in brewing trials involving a test brew prepared according to the invention and a control brew (see Examples 11 and 12, below).--

IN THE CLAIMS :

Please cancel claims 1-8.

Please add new claims 9-17 as follows:

9. (New) In a process for preparing an alcoholic beverage comprising heating, steeping or mixing a plurality of raw materials to form a brew, the improvement comprising adding to the brew during any stage of its formation a non-malt component or components collectively comprising a mixture of enzymes including at least an endo β -(1,4)-xylanases, an arabinofuranosidase, an alpha-amylase, an endo-protease and a β -(1,3-1,4)-glucanase, wherein the enzymes are present in respective amounts sufficient to provide the alcoholic beverage with a taste profile of a malt brew having a higher malt content than said alcoholic beverage, and wherein the component or components comprise a seed.

10. (New) A process according to claim 9, wherein the seed is from a transgenic plant line that sets seed containing at least one of said enzymes.

11. (New) A process according to claim 9, wherein a plurality of the components collectively comprising said mixture of enzymes is added to the brew, each of said components comprising a seed containing a respective one of said enzymes such that each of the enzymes is included in the beverage from a seed component.

12. (New) A process according to claim 11, wherein each of the respective seeds containing said components is from a different transgenic plant line, each of the different transgenic plant lines setting seed containing a respective one of said enzymes.

13. (New) A process according to claim 9, wherein the seed comprises a plurality of the enzymes.

14. (New) A process according to claim 13, wherein the seed is from a transgenic plant line that sets seed containing said plurality of enzymes.

15. (New) A process according to claim 10, wherein the transgenic plant line is a barley plant line.

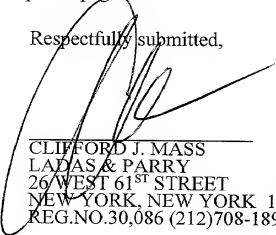
16. (New) A process according to claim 12, wherein each of the different transgenic plant lines is a barley plant line.

17. (New) A process according to claim 14, wherein the transgenic plant line is a barley plant line.

IN THE ABSTRACT

Please add the Abstract on the last separate page hereof.

Respectfully submitted,



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ABSTRACT

The invention relates to a process for the production of alcoholic beverages such as beer or whiskey with a mixture of enzymes comprising an endo- β (1,4)-xylanase, an arabinofuranosidase, an alpha-amylase, an endo-protease and a β -(1,3; 1,4)-glucanase, and optionally, a saccharifying amylase and/or an exopeptidase. Preferable are mixtures in which the enzymes which are necessary in the brewing process are provided by transgenic seeds. Only a minor amount of malt may be necessary for flavour and colour.

Figure 1: Brewing diagram

- Cereal cooker/mash cooker
- Conversion vessel/mash mixer

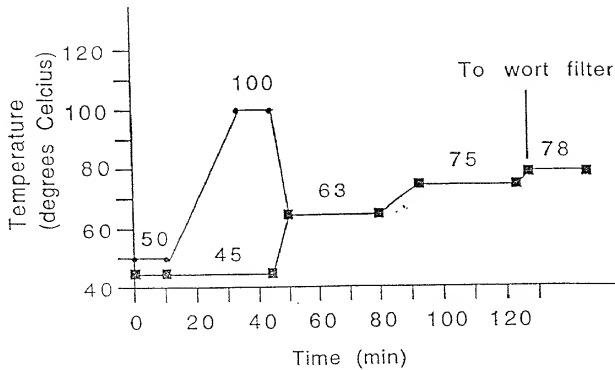


FIGURE 1

Figure 2 Brewing diagram for test brew 1 and the control

- Cereal cooker/mash cooker
- Conversion vessel/mash mixer

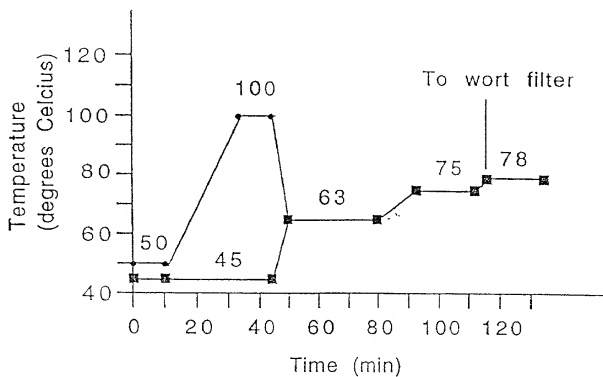


FIGURE 2